Title
The Role of Empowerment Among a Code Stroke Team and its Effect on Stroke Outcomes

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The Role of Empowerment Among a Code Stroke Team and its Effect on Stroke Outcomes

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Nursing Practice

by

Melanie Altamirano

2020

ABSTRACT OF THE DISSERTATION

The Role of Empowerment Among a Code Stroke Team and its Effect on Stroke Outcomes

by

Melanie Altamirano

Doctor of Nursing Practice

University of California, Los Angeles, 2020

Professor Wendie A. Robbins, Chair

Background: Code Stroke Teams in hospitals provide emergency deployment of stroke clinical care experts for treatment of an acute stroke. Code Stroke Teams monitor their effectiveness using standards for stroke patient outcomes provided by the American Heart Association (AHA) and American Stroke Association (ASA) Stroke measures. This project was conducted in a Southern California suburban hospital where changes in leadership and high turnover rates had led to Code Stroke Team members experiencing decreased motivation, job satisfaction and low morale leading to substandard stroke patient outcomes.

Aim: This quality improvement project aimed to empower staff, improve performance and stroke outcomes by giving monthly presentations of successful Code Stroke cases to the Stroke Performance Improvement Committee leaders and stroke team staff.

Methods: Stroke Performance Improvement Committee leaders and stroke team staff participated monthly in an empowerment intervention through presentation of a stroke case on a "Code Stroke Spotlight" handout (Educational Empowerment Tool) over a 3 month period. Using a repeated measures, pre- post design, staff empowerment (measured by the Psychological Empowerment Instrument) and American Heart Association (AHA) Core Emergency

Department Stroke Measures were collected prior to the intervention at baseline and post empowerment intervention following monthly implementation over 3 months.

Results: Results showed statistically significant improvement in all items on the Psychological Empowerment (PE) Instrument using Wilcoxon signed-rank test ($p<0.05$) ($N = 32$). Door to neuro MD (neurologic expertise consult) <15 minutes showed significant improvement post intervention ($z =-2.285$, $p = 0.023$). Door to PT/INR result <45 minutes showed statistical significance ($z =-2.931$, $p = 0.003$). Door to CT film <20 minutes showed no change ($z=0.000$, $p = 1.000$). For the remaining goals there was improvement in right direction, demonstrating decreased door to activation times, though these did not reach statistical significance.

Discussion: Implementation of the 'Code Stroke Empowerment Spotlight' intervention effectively improved staff empowerment and performance on American Heart Association (AHA) and American Stroke Association (ASA) Stroke core measures. Future studies are needed to evaluate positive reinforcement, meaningful recognition, and empowerment specific to those caring for stroke patients.

The dissertation of Melanie Altamirano is approved.

Joann O. Eastwood

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University of California, Los Angeles

2020

Dedication

This work is dedicated to my father, Rolando Altamirano, who suffered a stroke in 2004 and since has been my motivation for nursing excellence and improvement in stroke care.

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Acknowledgements

First and foremost, I would like to Thank God, above all, none of this would be possible.

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2011, Sigma Theta Tau International, Honor Society of Nursing, CSULA.
2011, Golden Key International Honor Society, CSULA.
2008, Who's Who Among Students in American Universities and Colleges, CSULB.
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2020 UCLA Virtual Research Day: The Role of Empowerment Among a Code Stroke Team and its Effect on Stroke Outcomes.

CHAPTER ONE

Introduction

In the United States, 795,000 people have a stroke each year (CDC, 2020). Stroke is the fifth leading cause of death and the leading cause of disability in the United States (CDC, 2020). At the Southern California suburban hospital where this Doctor of Nurse Practice (DNP) scholarly project was conducted, an estimated 500 patients present for stroke symptoms per year. Successful code stroke (emergency deployment of an expert stroke team for treatment of an acute stroke patient) cases at this hospital are defined as examples in which Tissue Plasminogen Activator (TPA) or Alteplase is administered within 60 minutes of a patient's arrival time. TPA is the current gold standard for stroke treatment to dissolve a clot and improve blood flow in the brain improving outcomes when administered in the hyper-acute time frame, less than 3-4.5 hours after onset of stroke (Demaerschalk et al., 2016). Stroke Core time frames for TPA are designated by the American Heart Association (AHA) and measured by stroke designated hospitals, which also include specific quality measures necessary prior to rapid administration of TPA. At the site for the DNP scholarly project, these quality measures are known as the AHA Core Emergency Department Stroke Measures (Appendix C).

Problem Statement

In a Southern California suburban hospital, changes in leadership and high staff turnover rates have led to Code Stroke Team members experiencing decreased motivation, decreased job satisfaction and low morale, ultimately leading to poor stroke patient outcomes. Staff have stated they are constantly receiving negative feedback regarding poor performance, creating a perceived culture of blame. Current feedback to one Code Stroke Team regarding stroke care has been focused on poor performance and low scores on the AHA recommended Target Stroke

(AHA, 2019) and facility specific measures (the AHA Core Emergency Department Stroke Measures, Appendix C). The need for positive reinforcement, acknowledgement, empowerment, and consistent and timely Code Stroke Team feedback is highly desired by the stroke team to improve performance.

PICOT QUESTION

The following PICO(T) question was developed: Would frontline staff empowerment through monthly dissemination of Code Stroke successes improve Code Stroke Team performance within three months at a suburban medical center in Southern California? Interventions included presentations of one successful Code Stroke case per month, over a course of a three month period. Data was disseminated to the appropriate stroke performance improvement team and their staff to provide positive feedback and acknowledge outstanding performance.

Purpose and Objectives

This DNP Scholarly Project aimed to test the effects of an empowerment intervention on leaders and staff. The intervention consisted of positive feedback through monthly presentations of successful Code Stroke cases by the Principal Investigator to the Stroke Performance Improvement Committee leaders (Appendix A) and stroke team department staff using "Code Stroke Empowerment Spotlight" handouts (Appendix B).

Empowerment of leaders and staff may increase staff motivation, enhance meaningfulness, and encourage decision making. Empowerment has been shown to lead to a change in institutional culture and patient safety, promoting the highest quality of care (Asiri et al., 2016). Research has demonstrated the benefits of empowerment: teamwork, increased knowledge, increased use of current evidence-based practice, increased patient safety and quality

care (Tinkham, 2013). Additionally, empowered working environments have been associated with positive attitudes, job satisfaction, and effective performance (de Almeida, Orgambídez-Ramos, & Batista, 2017).

CHAPTER TWO

Theoretical Framework

The theoretical framework used for this project was the Relationship-Based Care (RBC) Model. The RBC Model provides the philosophical foundation and operational framework for the organizational transformation of care and services by focusing on relationships, team vision, and anticipated outcomes (Koloroutis, 2004). Effective relationships and teamwork are focused on the mission and values of the patient and their families, providers, and staff from all disciplines. The model recognizes each team member's contribution and impact on nursing care and patient satisfaction. Positive outcomes promoted by the model in clinical areas include safety, quality, patient and staff satisfaction, recruitment and retention, and finances (Koloroutis, 2004).

Six essential components of the model include leadership, teamwork, nursing practice, patient care delivery, resource driven practice, and outcomes measurement (Koloroutis, 2004). Of these components, leadership refers to leaders creating a caring and healing culture, decentralizing decision making, and eliminating barriers to quality of care. Teamwork refers to interdisciplinary collaboration through healthy relationships for high quality patient care. Nursing practice involves competent clinical practice to achieve clinical knowledge, proficiency and compassionate care. Patient care delivery refers to support of the professional role, promotion of collegiate relationships, organization and utilization of resources. Resource driven practice refers to maximizing all resources including staff time, equipment, and budget, to achieve safe care. Lastly, outcomes measurement refers to measuring outcomes to raise standards, increase positive outcomes, and use of a visual meaningful representation of outcomes for the team to see (Koloroutis, 2004).

Application of the RBC Model has the potential to create positive relationships and provide a culture of learning and shared leadership. A shift in organizational principles can occur by communicating relevant information among team members. This process is fundamental to empowering people in decision making and taking responsibility for results. The RBC Model led to improved patient satisfaction, decreased falls, and led to improved staff efficiency (Woolley et al., 2012). Further research found that the model empowers nurses to get to know the patient in order to provide the best care, while also recognizing their value to the organization (Allen & Vitale-Nolen, 2005). An additional study reported findings that support the model improves nurse-to-patient relationships, increases job satisfaction, decreases turnover, and promotes positive patient outcomes (Carabetta, Lombardo, & Kline, 2013).

CHAPTER THREE

Synthesis of Evidence

Evidence Search

The literature search focused on stroke, teams, empowerment and patient outcomes. Pubmed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Cochrane and Embase were searched. Three hundred articles regarding keywords including team empowerment, Code Stroke Teams, interdisciplinary teams, and patient outcomes were found. Boolean search was carried out which also included use of the following combination of terms: team and empowerment, stroke team and empowerment, empowerment and interventions, interdisciplinary team and empowerment, stroke and interdisciplinary team, empowerment and patient outcomes, stroke and outcomes. Quantitative and qualitative research was searched. Articles were chosen based on the purpose of the article, size of sample, methods and most relevant results. More refined searches included academic journals, full text articles, research within the last five years, and printed in English. Specific articles that were chosen showed evidence of empowerment and its effects on patient outcomes, roles of empowerment and its effect on job satisfaction, leadership styles and empowerment, healthy work environments, and use of workplace empowerment strategies to disseminate knowledge. Although the focus of this search was intended to find evidence of an empowerment intervention targeting stroke care in emergency departments among stroke teams, none were found. Five articles were chosen for the DNP scholarly project which discussed evidence of empowerment, patient outcomes, job satisfaction, and use of workplace empowerment strategies to disseminate knowledge (See Appendix G, Table of Evidence).

A survey study by Breau and Rheaume (2014) investigated empowerment and the workplace to delineate if the work environment had an effect on job satisfaction, intent to leave, and quality of care among nurses (N = 533). The study used three validated tools to measure healthy work environments, job satisfaction, and patient outcomes. The Practice Environment Scale of Nursing Work Index (PES-NWI), a 31- item instrument measuring work environment, showed Cronbach's alpha coefficients ranging from 0.80-0.88. Based on the PES-NWI, ICU access to opportunity was the most empowering (M = 3.57, SD = 0.73), while support (M = 2.44, SD = 0.86) and formal power (M = 2.60, SD = 0.88), were the least empowering. The Conditions of Work Effectiveness Questionnaire-II (CWEQ-II), measuring nursing perceptions of empowerment through a 19-item Likert scale, showed internal consistency (Cronbach's alpha) ranging from 0.80 to 0.90. Job satisfaction was measured by the Minnesota Satisfaction Questionnaire (MSQ), a 20- item scale, with internal consistency and reliability ranging from 0.80 to 0.84. Variables were predicted with hierarchical regression analysis. Regression analysis indicated empowerment subscales predicted 63.4% variance of work environment, demonstrating workplace empowerment predicted a positive work environment. The regression indicated that dimensions of empowerment (access, resources and formal power) and of work environment (performance, leadership and support) predicted 68.9% of job satisfaction. This showed access to empowerment and leadership led to greater job satisfaction. The third regression analysis predicted access, support and empowerment predicted 16.6% intent to leave. The fourth regression demonstrated empowerment predicted only 20.8% of perceived quality of care. Correlation analysis demonstrated a significant correlation between empowerment and the work environment (r = 0.79), a strong correlation between access to information (empowerment) and nurses participation in workplace affairs (work environment) (r = 0.65), a strong correlation

between support and work environment in regards to performance, leadership, and support from nurse manager ($r = 0.57$), and a strong correlation between empowerment and perceived quality care ($r = 0.52$). These results indicated that the nurses in this sample were empowered, rating their work as a positive environment and perceiving their work as quality care.

Another study evaluated an effect of structural empowerment and its effect on job satisfaction (de Almeida, Orgambídez-Ramos, & Batista, 2017). One hundred and fifty-one nurses participated in a survey using two validated questionnaries: The CWEQ-II and the Job Satisfaction Scale. The CWEQ-II demonstrated high reliability (Cronbach's alpha = 0.93, 0.77, 0.72, and 0.92). The Job Satisfaction Scale had a Cronbach's alpha of 0.81. Results of the study demonstrated that structural empowerment and global empowerment were positively related to job satisfaction ($p < 0.001$), and correlated to access to opportunities referring to growth and promotion ($r = 0.55$), access to information referring to technological knowledge and expertise required ($r = 0.41$), access to resources referring to capacity to acquire resources($r = 0.37$) and global empowerment referring to sense of access to resources, information, and autonomy ($r = 0.52$).

A study by Asiri et al. (2016) evaluated the effects of specific leadership styles on empowerment and its effect on nurse commitment. This study had a 95% return rate of 332 out of 350 self-reported questionnaires. Three validated survey instruments were used: (1) Multifactorial Leadership Questionnaire (MLQ) evaluating leadership styles, (2) Psychological Empowerment scale (PE) evaluating level of empowerment, and (3) Three-Component Model of Employee Commitment measuring levels of organizational commitment. Reliability of the three instruments were high (Cronbach's alpha of 0.94, 0.94 and 0.79 respectively). Results of this

study showed psychological empowerment and autonomy were positively correlated with organizational commitment ($p = 0.016$).

Empowerment has also been studied in relation to evidenced based practice (Belden, Leafman, Nehrenz, & Miller, 2012). Out of 500 potential participants, 42 nurses responded to the survey, which demonsrated a low rate of return, causing a threat to interval validity. The Evidence-Based Practice Questionnaire used a 24 item survey, which showed Cronbach's alpha of 0.70 to 0.87, with construct validity (correlation coefficients ranging from 0.3 - 0.4) ($p < 0.001$). The PE instrument was used, consisting of a 12-item self-perceptions survey; Cronbach's alpha of 0.72 and validity of 0.80. Results showed that evidence based practice is positively correlated to workplace empowerment ($r = 0.656$, $p = 0.000$). Results also demonstrated strong positive correlation between utilization of evidenced based practice and workplace empowerment ($r = 0.648$, $p < 0.01$).

Singh et al. (2015) tested evidence based practice through a knowledge transfer team (KTT) approach among nurses. The KTT is described as transferring knowledge about best practice guidelines to staff, through mobilization of information by champions. This study describes knowledge transfer as a process incorporating cognitive and interprofessional factors affecting shared knowledge. The KTT staff attended educational sessions to learn the process of knowledge transfer and the best practice guideline of the Canadian Neurological Stroke Scale (CNSS). Use of the Knowledge and Self-Efficacy Survey were completed by the KTT staff at point of care and after implementation of the best practice guidelines, although reliability and validity were not stated. Findings showed that the staff felt the KTT approach was an effective method of implementation and dissemination of stroke practice guidelines. A self-efficacy survey was administered to evaluate whether an individual's belief in a specific behavior can

lead to an improved outcome. In this study, both pre implementation and post implementation self-efficacy had a mean score of 2.9 (SD = 0.77), indicating a moderate level of self-efficacy. This suggests that the stronger the self-efficacy, the more likely a person will place effort into accomplishing the goal.

Synthesis

For this DNP scholarly project, studies were chosen showing evidence of empowerment, patient outcomes, job satisfaction, and use of workplace empowerment strategies to disseminate knowledge. Studies in the literature have shown evidence of empowerment with improved patient outcomes and increased job satisfaction by implementing workplace empowerment strategies to disseminate knowledge (Breau & Rheaume, 2014; de Almeida, Orgambídez-Ramos, & Batista 2017; Asiri et al., 2016; Belden et al., 2012). These studies included qualitative designs with the use of validated pre-and- post test instruments. Further, the relationships of empowerment and leadership styles, quality of care, nursing commitment, and evidenced based practice were assessed. Positive correlations have also been demonstrated between empowerment, and leadership support, access to resources, opportunities for growth, improved performance, and organizational commitment. Based on these studies, increased empowerment was highly correlated with improved performance and commitment to the organization. Singh et al. (2015) assessed implementation of evidence based practice through an education and knowledge transfer approach in order to educate and empower staff resulting in an overall improvement in patient outcomes. Although these studies were beneficial in evaluating empowerment, similar limitations including small sample sizes, and specific population or geographic locations, affected the generalizability of the studies on a larger scale. Future studies

are needed to further evaluate positive reinforcement, meaningful recognition, and empowerment specific to those caring for stroke patients.

CHAPTER FOUR

Methods

The DNP Scholarly Project applied a pre- post design in a hospital setting to investigate the effects of an empowerment intervention on staff performance in Code Stroke efficiency. This project was preapproved by the institution and was designated exempt from review by the Hospital and University's Institutional Review Board. AHA Core Emergency Department Stroke Measures (Appendix C) were evaluated pre and post implementation of the "Code Stroke Empowerment Spotlight" intervention. Stroke team leaders were recruited from those attending stroke performance evaluation meetings. Staff were recruited at meetings specifically held to talk about the project and invite participation. Staff were also recruited during unit huddles. Over the course of three months, three Code Stroke cases were highlighted per month during the stroke performance improvement meetings. A Psychological Empowerment instrument by Spreitzer (Belden et al., 2012), was approved for use and was administered to the stroke team leaders and staff prior to the intervention (pre-intervention) and again following the third month of the intervention (post-intervention).

Interventions

An empowerment intervention through positive reinforcement of interdisciplinary Code Stroke Team leaders included a presentation of data and discussion of a successful Code Stroke case through distribution of "Code Stroke Spotlights" handouts (Educational Empowerment Tool) by the Principal Investigator (PI) of this DNP scholarly project. Appreciation for the team was verbalized during the stroke performance improvement meeting prior to distribution of the "Code Stroke Spotlights." These handouts were then disseminated by the stroke team leaders to their staff. Supplemental reinforcement of the intervention through the "Code Stroke Spotlights"

handouts were administered to staff at monthly staff meetings and unit huddles. The intervention aimed to empower and reestablish common goals and improve teamwork through sharing positive data regarding a prior successful TPA case and the patient's improved neurologic outcomes.

A TPA patient with improved outcomes was presented to Code Stroke Team staff on an educational handout, known as the "Code Stroke Spotlight" (Appendix B). The educational empowerment tool highlighted a detailed case review of the following: De-identified stroke patient's history of present illness, chief complaint on admission, stroke symptoms, last known well time (time without stroke symptoms) and "door time" (arrival time to the ED), a description of AHA Core Emergency Department Stroke Measures (Appendix C) met, outstanding performance of staff, and TPA administration times. It also included an evaluation of the patient's National Institutes of Health Stroke Scale (NIHSS) score, a quantitative score used to measure stroke-related neurologic deficit, on initial presentation in comparison to the NIHSS improved stroke scale score upon discharge (The International Electronic Education Network, 1999). Case reviews described the patient's presentation and initial stroke deficits, hospital course, progress, and neurologic improvements upon discharge.

Data Collection

De-identified stroke data were collected from the facility's quality improvement team and transmitted to the PI for the DNP scholarly project. Stroke performance data and specific case review were disseminated monthly over a three-month period during the stroke process improvement meetings and during staff meetings by the PI. Data included the evaluation of AHA Core Emergency Department Stroke Measures (Appendix C) during the stroke process improvement meetings. Pre- and post-intervention empowerment and stroke outcomes data

using PE Instrument evaluated the impact of the construct of empowerment interventions (independent variable) on AHA Core Emergency Department Stroke Measures (dependent variables). Stroke Measures were evaluated through data audits of electronic medical records (EMRs). Data was then documented and validated by the stroke nurse practitioner (PI on this project) and discussed at all stroke meetings.

Data Collection Instruments

Demographic Questionnaire. Demographic data of the Code Stroke Team members who participated in the study were collected by self-report questionnaire (Appendix E) prior to the intervention. Data was collected without names and each participant was assigned a code number to link pre- and post-answers. The demographic questionnaire included age, gender, highest educational level, years of experience, years on stroke team, years at the current facility, as well as information about how the participant heard about the "Code Stroke Spotlight" and where it was seen. Demographic data was grouped in all presentations/discussions of study findings to protect confidentiality of the stroke team leaders and stroke team. Each departmental leader who attended the stroke performance meeting, as well as staff from departmental staff meetings, were given the opportunity to participate. Participation was voluntary and oral consent was obtained prior to collection of the demographic data and pre and post empowerment survey.

Psychological Empowerment Instrument. This empowerment assessment is a self-administered 12-question, 7-item Likert scale which measures overall score of empowerment and was administered pre- and post-intervention (see Appendix F). A reliable tool, the Psychological Empowerment instrument by Spreitzer (Belden et al., 2012), was used to evaluate the perceived level of workplace empowerment. The tool exhibited an internal reliability via Cronbach's alpha of .72 with validity averages of .80 (Belden et al., 2012). The instrument measures an overall

score of empowerment. Subscales scores of empowerment are categorized as meaning, confidence, self-determination, and impact (Belden et al., 2012). The PE Instrument was administered to staff prior to the educational intervention (Code Stroke Spotlight) at the beginning of the stroke performance improvement meeting or staff meeting. This same survey was administered three months later post implementation of the "Code Stroke Spotlights" (post-intervention).

AHA Core Emergency Department Stroke Measures (See Appendix C). AHA Core Emergency Department Stroke Measures (Appendix C) are evaluated, measured, and discussed at the performance improvement committee meetings monthly attended by stroke leaders from all respective departments. Leaders are required to attend and are then expected to disseminate information back to the staff on their units, which also allows for feasibility of this study. This data includes specific quality measures for stroke care: Door to Code Stroke Activation < 10 Minutes, Door to Neuro MD < 15 minutes, Door to PT/INR Result <45 minutes, Door to CT Film < 20 minutes, Door to CBC Result <45 minutes, Door to CT Result, Time to IV Thrombolytic Therapy < 60 minutes, and Overall Emergency Department Core Measures Average (Appendix C). Data was also reviewed at departmental staff meetings and unit huddles.

Analysis

Participant demographic data, pre- and post-intervention Psychological Empowerment instrument data, and AHA Core Emergency Department Stroke Measures data (Appendix C) was entered into an excel file for data management and analysis. The null hypothesis was: There is no difference between baseline empowerment and empowerment at three months post intervention. Level of significance was set at $p < 0.05$ indicating rejection of the null hypothesis. If the significance value was > 0.05, this indicates to not reject the null hypothesis and conclude

that the average difference is near zero, and that baseline and three-month post intervention did not differ.

The paired Wilcoxon sign rank test was used to compare the level of nursing empowerment change from baseline to three months based on the Psychological Empowerment tool by Spreitzer (Belden et al., 2012). The Wilcoxon sign rank test is a nonparametric test that was used because of the small sample size and consisted of ordinal data on Likert Scale. The same stroke team leaders and staff completed the PE tool at baseline and again at three months after the intervention.

AHA Core Emergency Department Stroke Measures (Appendix C) pre- and post-data were also evaluated through independent samples Wilcoxon rank sum test. The Wilcoxon rank sum test is a nonparametric test that was used for this small sample size where the data did not follow a normal distribution. In this study, pre- and post-intervention data included stroke outcomes on 30 different patients, 15 patients pre-intervention during the month of December and 15 different patients post-intervention in the month of March, thus the Wilcoxon rank sum test was needed to evaluate the statistical difference between two groups.

CHAPTER FIVE

Results

Demographic Questionnaire

Demographic data was completed by 32 stroke team members (Table 1). 69% of participants were female. Participants varied in age with the largest percentage (38%) between 31-40 years old. Of the leadership and staff participants, 22% held an Associate's Degree, 53% held at Bachelor's Degree, 16% held a Master's Degree, and 9% held a Doctoral Degree. Stroke team members with over 20 of experience made up 19%. Of the staff with experience, 25% have been on a stroke team for over 9 years, 25% for 6-8 years, 25% for 3-5 years, with the remaining less than 2 years of experience. Of those on a stroke team, 34% have been at the current facility for over 9 years. Post intervention, when asked about their knowledge regarding the "Code Stroke Spotlight," 88% of participants reported that they knew about it. Of the 88% that have heard about the "Code Stroke Spotlight," 24 of the participants documented that they heard about it from the PI on the DNP scholarly project, while 2 participants documented that heard about it at the stroke committee meeting. When asked where the "Code Stroke Spotlights" were seen, 9 stated at a meeting, 1 stated from a pharmacy meeting, 5 stated during unit huddles, 3 stated on the stroke telemetry unit, and 4 stated on a stroke board.

Psychological Empowerment Instrument

The Psychological Empowerment Instrument was completed by 32 stroke team members (Table 2). The self-administered 12-question, 7-item Likert scale measured overall score of empowerment. Results showed statistically significant improvement in all 12 items of empowerment ($p < .05$). The psychological empowerment survey consists of items categorized into four subscales addressing meaning, self-determination, competence, and impact. Post

empowerment intervention, survey results demonstrated significant improvements in psychological empowerment addressing two of the four subscales: self-determination and competence. Of the following statements, there was significant improvement in means regarding those who strongly agree and very strongly agree with the following statements by the participants: Significant autonomy of job (Pre-intervention mean = 5.78 , Post-intervention mean = 6.78), control over what happens the department (Pre-intervention mean = 4.93, Post-intervention mean = 6.53), deciding on how to do own work (Pre-intervention mean = 5.25 , Post-intervention mean = 6.56), having independence and freedom (Pre-intervention mean = 5.53 , Post-intervention mean = 6.53), mastering skills of the job (Pre-intervention mean = 5.63 , Post-intervention mean = 6.63) and having significance influence over the department (Pre-intervention mean = 5.25 , Post-intervention mean = 6.69) (See Table 2). Results showed high means for both pre and post intervention on survey items discussing the following items regarding meaningfulness: Work importance (Pre-intervention mean = 6.29 , Post-intervention mean = 6.79), job activities as personally meaningful (Pre-intervention mean = 6.23, Post-intervention mean = 6.81), and work as meaningful (Pre-intervention mean = 6.47 , Post-intervention mean = 6.81) (See Table 2).

AHA Core Emergency Department Stroke Measures

When evaluating pre-intervention data from December compared to three month post-intervention data in March, which evaluates the average across all stroke measures that met the guideline goals, the AHA Core Emergency Department Stroke measures overall total average improved from 50% (December) to 80% (March) (Figure 1), which is the highest total average seen at this facility. For the goal of door to code stroke activation <10 minutes, there was improvement in the right direction, meaning that there were decreasing door to activation times

(z = -0.898), though this did not reach statistical significance (p = 0.369). Door to neuro MD <15 minutes showed significant improvement post-intervention (z = -2.285, p = 0.023). The goal of door to CT scan in < 20 minutes showed no change (z = 0.000, p = 1.000). Door to CT results < 45 minutes showed improvement indicating decreased door to result time (z = -1.466, though this did not reach statistical significance (p = 0.143). Door to PT/INR result <45 minutes showed improvement with statistical significance (z = -2.931, p = 0.003). Door to CBC result <45 minutes showed significant improvement in correct direction indicating improvement in time, though this did not reach statistical significance (z = -1.959, p = 0.050). When analyzing TPA administration (Time to IV Thrombolytic Therapy < 60 minutes), there were no cases at baseline for the month of December, although there was one TPA case in January which showed goal not met resulting in 0% in time to IV thrombolytic therapy. In the month of March post intervention, there were 5 TPA cases post intervention in which all 5 TPA cases met the goal of 100% of Time to IV Thrombolytic Therapy < 60 minutes showing improvement from the prior most recent case.

Tables and Figures

Table 1

Demographic Characteristics of Leadership and Staff (N=32)

Age in years	**20-30**	**31-40**	**41-50**	**51-60**	**Other**
	9.37%	37.50%	31.3%	18.75%	3.10%
Gender	**Male**	**Female**			
	31.25%	68.75%			
Educational level	**Associates**	**Bachelors**	**Masters**	**Doctorate**	
	21.88%	53.13%	15.63%	9.37%	
Experience in years	**1-5**	**6-10**	**11-15**	**16-20**	**20+**
	28.13%	21.88%	12.50%	18.75%	19%
Years on Stroke Team	**<1**	**1-2**	**3-5**	**6-8**	**9+**
	6.25%	18.75%	25.00%	25.00%	25.00%
Years at facility	**<1**	**1-2**	**3-5**	**6-8**	**9+**
	3.12%	9.38%	31.25%	21.87%	34.37%
Do you know about code stroke Spotlight	**Yes**	**No**			
	87.50%	13%			

Table 2

Psychological Empowerment Instrument Wilcoxon Signed Rank Test Results (Pre and Post Intervention) (N=32)

Psychological Empowerment Survey Results	**Mean Score Pre-Intervention**	**Mean Score Pre-Intervention**	**P Value**
I am confident about my ability to do my job. (Meaning)	5.88	6.66	p = 0.000
The work that I do is important to me. (Meaning)	6.29	6.79	p = 0.006
I have significant autonomy in determining how I do my job. (Meaning)	5.78	6.78	p = 0.000
My impact on what happens in my department is large. (Self Determination)	5.84	6.69	p = 0.000
My job activities are personally meaningful to me. (Self Determination)	6.23	6.81	p = 0.003
I have a great deal of control over what happens in my department. (Self Determination)	4.93	6.53	p = 0.000
I can decide on my own how to go about doing my own work. (Competence)	5.25	6.56	p = 0.000
I have considerable opportunity for independence and freedom in how I do my job. (Competence)	5.53	6.53	p = 0.000
I have mastered the skills necessary for my job. (Competence)	5.63	6.63	p = 0.000
The work I do is meaningful to me. (Impact)	6.47	6.81	p = 0.048
I have significant influence over what happens in my department. (Impact)	5.25	6.69	p = 0.000
I am self-assured about my capabilities to perform my work activities. (Impact)	6.03	6.88	p = 0.000

Figure 1.
AHA Core Emergency Department Stroke Measures Data (Pre and Post Intervention) (N=15)

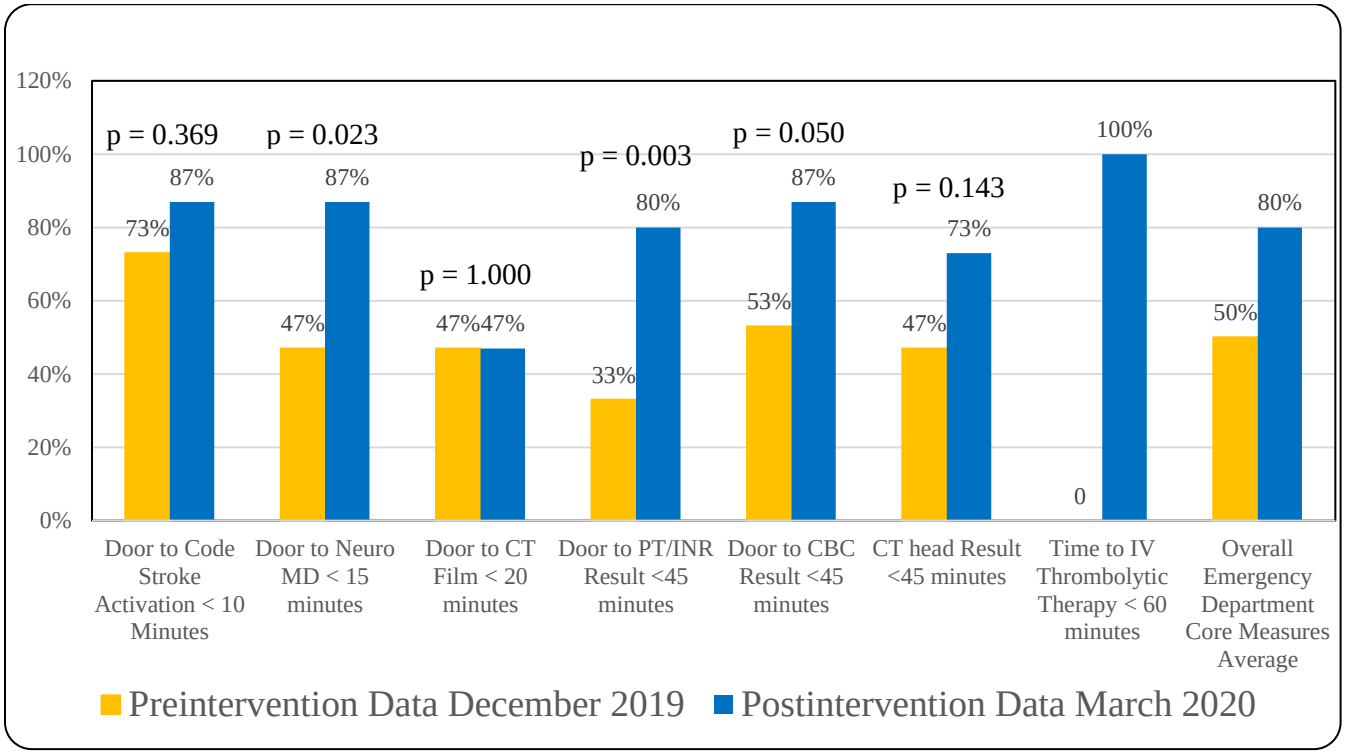


Table 3

Stroke Core Measures Two-sample Wilcoxon Rank-Sum Test Result (Pre and Post Intervention) (N=15)

Stroke Core Measure	Z Score	P Value
Door to Code Stroke Activation < 10 Minutes	z = -0.898	p = 0.369
Door to Neuro MD < 15 minutes	z = -2.285	p = 0.023
Door to PT/INR Result <45 minutes	z = -2.931	p = 0.003
Door to CT Film < 20 minutes	z = 0.000	p = 1.000
Door to CBC Result <45 minutes	z = -2.931	p = 0.050
Door to CT Result	z = -1.466	p = 0.143
Time to IV Thrombolytic Therapy < 60 minutes	N/A	N/A

CHAPTER SIX

Discussion

Empowerment surveys pre and post intervention demonstrated a statistically significant increase in psychological empowerment on all 12 items after three months of the intervention ($p < 0.05$). The Code Stroke Team leaders and stroke team were empowered through the use of a nurse-driven, positive code stroke highlights and case reviews intervention. Based on the psychological empowerment instrument, results prior to the intervention demonstrated leaders and staff felt their job was important and meaningful to them, though results showed that they did not feel they had control or autonomy regarding their job which improved post empowerment intervention. Results were consistent with study by Asiri et al. (2016) which showed psychological empowerment and autonomy were positively correlated with organizational commitment ($p = 0.016$). These results were also similar to study by Breau and Rheaume (2014) which indicated that empowered nurses rated their work as a positive environment and perceived their work as quality care.

This study demonstrated the effects of staff empowerment with improvement on stroke patient outcomes pre-post intervention. All but one AHA Core Emergency Department Measures improved, with statistical significance reached for door to Code activation, Neuro MD, and PT/INR results, Wilcoxon rank-sum test ($p < 0.05$). However, analysis showed no improvement in Door to CT scan times, which may be related to expedited time to CT due to faster activation of code stroke, neurology input, and lab draws. This may also be related to current processing institution issues and delays in registration and input of the order which would cause a delay in CT film times and results. Overall, results demonstrated improvement in right direction for stroke measures indicating reduction in times. Emergency department code stroke measures average post intervention showed a 30% improvement when looking at the average

across all stroke measures that met the guideline goals (Figure 1). Though TPA was not administered in December at pre intervention phase, January had one TPA case which did not meet goal demonstrating 0% for TPA in 60 minutes (Time to IV Thrombolytic Therapy < 60 minutes). In the month of March, there were 5 TPA cases post intervention in which all 5 cases met the goal of 100% for TPA in 60 minutes (Time to IV Thrombolytic Therapy < 60 minutes), showing improvement from the prior 0% in January. In comparison to the American Heart Association Study analyzing hospitals with Performance Achievement Award Recognition and Primary Stroke Center Certification (similar to this hospital in this study), Time to IV thrombolytic therapy showed administration of TPA within 60 minutes (Time to IV Thrombolytic Therapy < 60 minutes) of 33.9% (Fonarow et al., 2013).

Implementation of the "Code Stroke Spotlight" Intervention based on evidenced based practice and AHA stroke guidelines and use of knowledge transfer approach was noted to be successful in improving outcomes similar to a study by Singh et al. (2015) which assessed use of evidence based practice through an education and knowledge transfer to educate and empower staff resulting in improvement in patient outcomes. Results also aligned with Belden, Leafman, Nehrenz, and Miller (2012), which discussed evidence based practice (in this study as administration of TPA as recommended by the AHA guidelines) positively correlated to workplace empowerment.

Limitations

In order to limit threats to internal validity, a reliable and valid tool, the Psychological Empowerment Instrument by Spreitzer (Belden et al., 2012), was utilized. Additionally, consistency in the methodology decreases internal threats to validity. A threat to external validity is the small sample size and single setting which limits generalizability of the findings.

Threats to external validity were minimized through consistent conditions throughout the course of the project to help limit variations that may affect the results. This study included consistent "Code Stroke Spotlight" handouts using the template (See example in Appendix B) and the same method of delivery during performance improvement meetings and unit meetings by the PI with continued dissemination by the stroke team leaders and staff.

Implications for Practice

In a Southern California suburban hospital, high pressure environments, patient volumes and acuities have led to reports of compassion fatigue and high turnover, which in turn led to concerns of poorer patient outcomes and loss of empowerment. Negative feedback, lack of inter-professional collaboration, staff shortages and high turnover changes were additionally reported by staff. Empowerment through positive reinforcement and employee recognition can lead to systems level improvement through promotion of inter-professional collaboration.

Advanced practice leaders of any organization need to implement organization or system-wide changes, such as empowerment, to improve inter-professional collaboration such as was demonstrated with the Code Stroke Team in this setting. Systems leadership and inter-professional collaboration are necessary to ensure leaders, staff, and stakeholders work together to create an effective work environment.

Through implementation of this project, stroke team leaders and employees were engaged in open and clear communication, shared decision making and collaboration thus improving patient outcomes and staff morale. Effective leaders must work proactively to create less punitive environments but instead provide meaningful recognition, growth, autonomy and support. These measures of empowerment could potentially improve job satisfaction, increase morale and improve efficiency, leading to better patient outcomes.

Future research is needed to further evaluate positive reinforcement, meaningful recognition, and empowerment specific to those caring for stroke patients. Research incorporating a randomized control trial (RCT) design, larger sample sizes, and multisite locations of empowerment and positive reinforcement are needed to determine further effects on staff performance, organizational level outcomes, and improvement in teamwork.

CHAPTER SEVEN

Conclusion

The DNP Scholarly Project aimed to improve empowerment of code stroke leaders and staff through discussion of positive stroke cases over the course of three months during monthly stroke meetings. Implementation of the "Code Stroke Spotlight" served to empower leaders and staff through dissemination of positive code outcomes. AHA Core Emergency Department Stroke Measures and empowerment pre and post implementation data was analyzed to determine the effects of empowerment on the clinical performance of staff. The PE instrument was used pre and post to determine staff empowerment levels. Results demonstrated statistical significance in level of empowerment and improvement in stroke measures in the right direction indicating reduction in time frames toward standardized goals. Emergency department code stroke measures average post intervention showed a 30% improvement of the total average of all stroke measures (Figure 1).

The project was low budget with further potential benefits ranging from increases in team work, interdisciplinary collaboration, and positive feedback with an improved work environment. Following project implementation, further benefits may also include the maintenance of stroke center designation, improved stroke measures times and efficiency, a positive change in culture, and improved job satisfaction and patient satisfaction. Without implementation of this project, continuation of a negative work environment without any positive reinforcement may further effect turnover, motivation, job satisfaction, and stroke patient outcomes.

Appendix A

Stroke Performance Improvement Leaders

Stroke Performance Improvement Team Leaders
Neurologist
Stroke Nurse Practitioner
Stroke Coordinator
Emergency Department Director
Intensive Care Unit Director
Stroke/Telemetry Unit Director
Laboratory Services Director
Pharmacy Director
Radiology Director
Rehabilitation Services Director
Emergency Room Physician Stroke Champion
Education Department Director
Chief Operating Officer/Chief Nursing Officer

Appendix B

"Code Stroke Empowerment Spotlight" Handout Example

CODE STROKE SPOTLIGHT

PATIENT PRESENTATION

CHIEF COMPLAINT: RIGHT SIDED WEAKNESS + DYSARTHRIA

Patient was male in his 40's with a history of HTN who presented with right sided weakness and dysarthria at 1029. Last known well time was 0830. On arrival, NIH stroke scale score was a 9. He had right hemiparesis with severe dysarthria and was incomprehensible.

Door time: 1029 **TPA order time:** 1115 **TPA admin time:** 1115

IV TPA was administered within 49 minutes

ED Stroke Measures	Goals	Outcome
Door to Code Activation	< 10 Minutes	1 Minute
Door to Neuro	< 15 Minutes	5 Minutes
Door to CT Film	< 20 Minutes	12 Minutes
Door to PT/INR result	<45 Minutes	37 Minutes
Door to CBC Result	<45 Minutes	22 Minutes
CT Head Results	<45 Minutes	32 Minutes
Door to IV tPA	**<60 Minutes**	**49 Minutes**
ED Measures Average	>75 %	100%

TEAM HIGHLIGHTS AND RECOGNITION

- ED triage activated code stroke at triage.
- MCCN assisted with IV, blood draw and TPA.
- ED Tech expedited transfer to CT scanner.
- CT Tech had open table available for patient.
- Neurologist and ED MD communicated to make immediate decision for TPA.
- TPA administered safely and efficiently.

PATIENT'S HOSPITAL COURSE

Patient was admitted to the ICU post tPA. After stabilization, he was transferred to the telemetry stroke unit. He participated with PT/OT and ST. His NIH Scale score of improved drastically. Upon discharge, the patient was ambulatory with normal speech with an NIH Stroke of 0.

Initial NIHSS: 9
Discharge NIHSS: 0

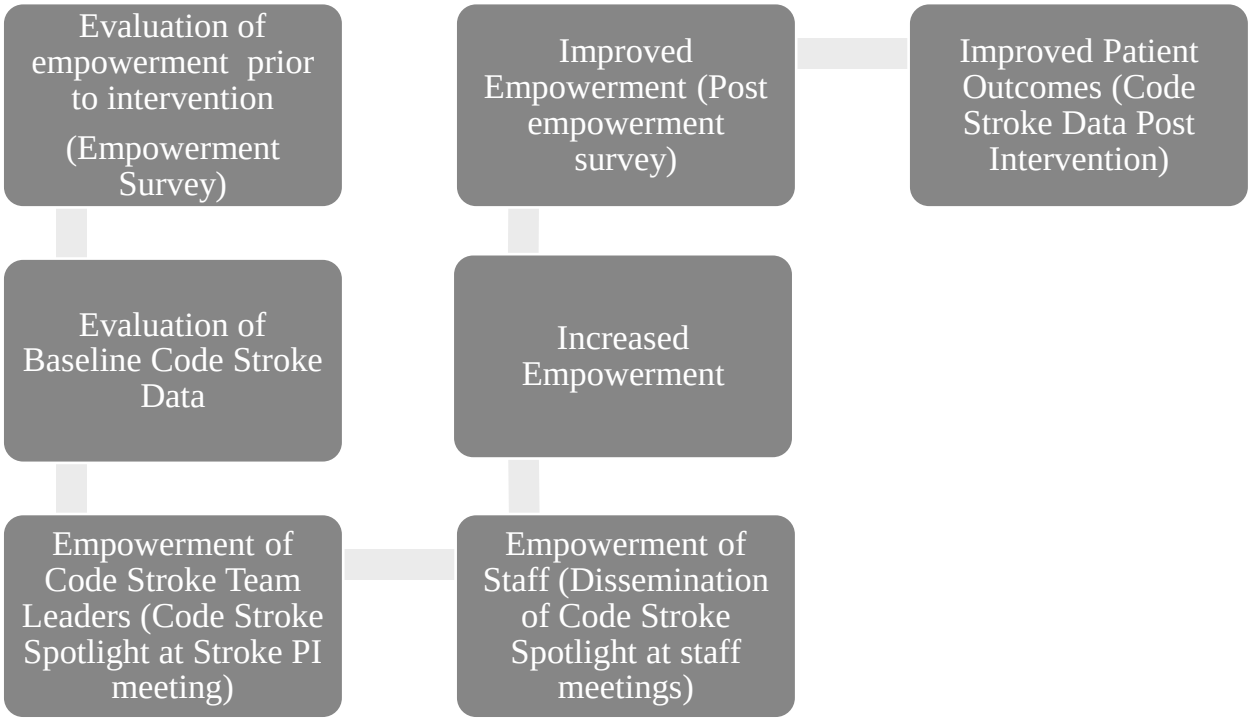
Appendix C

AHA Core Emergency Department Stroke Measures

Stroke Core Measure	**Goal Time**
Door to Code Stroke Activation	<10 Minutes
Door to Neuro MD	<15 Minutes
Door to CT Film	<20 Minutes
Door to PT/INR Result	<45 Minutes
Door to CBC Result	<45 Minutes
CT head Result	<45 Minutes
Time to IV Thrombolytic Therapy	<60 Minutes
Overall Emergency Department Core Measures Average	%

Appendix D

DNP Scholarly Project Flow Chart



Appendix E

Demographic Questionnaire

Demographic Questionnaire

1. Age
    a. 20-30
    b. 31-40
    c. 41-50
    d. 51-60
2. Gender
    a. Male
    b. Female
3. Highest educational level
    a. Bachelor's degree
    b. Master's Degree
    c. Doctoral Degree
4. Years of experience
    a. 1-5 years
    b. 6-10 years
    c. 11-15 years
    d. 16-20
    e. 20+
5. Years on Stroke team
    a. <1 year
    b. 1-2 years
    c. 3-5 years
    d. 6-8 years
    e. 9 years +
6. Years at the current facility
    a. <1 year
    b. 1-2 years
    c. 3-5 years
    d. 6-8 years
    e. 9+ years
7. Do you know about the "Code Stroke Spotlight"?
    a. Yes
        i. If yes, answer the following questions below:
            1. How did you hear about it? _____
            2. Where did you see it? _____
    b. No

Appendix F

Psychological Empowerment Instrument

Psychological Empowerment Instrument
Listed below are a number of self-orientations that people may have with regard to their work role. Using the following scale, please indicate the extent to which you agree or disagree that each one describes your self-orientation.

A. Very Strongly Disagree		E. Agree
B. Strongly Disagree	D. Neutral	F. Strongly Agree
C. Disagree		G. Very Strongly Agree

____ I am confident about my ability to do my job.

____ The work that I do is important to me.

____ I have significant autonomy in determining how I do my job.

____ My impact on what happens in my department is large. impact

____ My job activities are personally meaningful to me.

____ I have a great deal of control over what happens in my department. impact

____ I can decide on my own how to go about doing my own work.

____ I have considerable opportunity for independence and freedom in how I do my job.

____ I have mastered the skills necessary for my job.

____ The work I do is meaningful to me.

____ I have significant influence over what happens in my department.

____ I am self-assured about my capabilities to perform my work activities.

Appendix G

Table of Evidence					
Author, Year	**Purpose**	**Sample & Setting**	**Methods Design Interventions Measures**	**Results**	**Discussion, Interpretation, Limitation of Findings**
Breau, M., & Réaume, A. (2014). The relationship between empowerment and work environment on job satisfaction, intent to leave, and quality of care among ICU nurses. *Dynamics, 25*(3), 16-24.	To determine if empowerment and the workplace environment has an effect on job satisfaction, intent to leave and quality of care.	N=1,697 ICU nurses drawn from the Canada Association of Critical Nurses and the Nurses Association of New Brunswick. A total of 533 participants participated in the study (return rate 31%), male (67); female (411)Staff nurse: 363 - Nurse manager/assistant: 45 - Nurse educator: 38 - Clinical nurse specialist: 11 Education level - Diploma: 149 - Bachelors: 272 - Masters: 58	Cross-sectional, survey Instruments: 1. Structural empowerment (CWEQ-II) o Cronbach alpha = 0.91 2. Work environment measured by PES-NWI – 31 instrument with 5 subscales. o Cronbach alpha = 0.94 3. Work effectiveness measured by CWEQ-II – 19item measuring 6 components o Cronbach alpha = 0.80-0.90 4. Job Satisfaction measured by MSQ with 20 items	Findings: - Significant correlation between empowerment and work environment (r = 0.79): subscales of empowerment and work environment (r = 0.31-0.72) Significant correlation between empowerment and nurses' participation in work environment (r = 0.65) and perceived quality of care (r = 0.52) Total PES-NWI scores were strongly correlated to job satisfaction and intent to leave. - Nurses who worked in healthier environments were satisfied and less likely to leave. - Variables were predicted with hierarchical regression analysis. Regression analysis indicated empowerment subscales predicted 63.4% variance of work environment demonstrating workplace	Nurses with increased access to empowerment and support from leadership had healthier positive work environments. Empowerment and environment were strong predictors of job satisfaction. Increased job satisfaction led to increased perception of quality care. Nursing environments and quality of care were then linked to increased patient safety outcomes. Team collaboration and nurse/physician relationships led to increased value, autonomy and confidence Improved working environments increase satisfaction, decrease turnover and ensure

			○ Cronbach alpha = 0.92 5. Intent to leave was measured by 2 item questionnaire with 6 choices ○ Cronbach alpha not stated 6. Quality of Care was measured by Quality of Care Unit Scale ○ Cronbach alpha not stated Data Analysis: One-way ANOVA and t-tests Hierarchical regression analysis determined predicted values regarding intent to leave, satisfaction, and quality of care.	empowerment was largely predicted positive work environment. The regression indicated that three dimensions of empowerment and one dimension of work environment predicted 68.9% of job satisfaction.	exceptional quality of care. Front line managers should continue to support, provide information and disseminate feedback to bedside nurses. In order to empower others, a front line manager must be empowered. Limitations: - Study is a cross-sectional design and does not allow causal claims. - Variations in hospital systems, location, and leadership can influence findings. - Self-selection bias could have occurred, since nurses had the choice to participate via email. - A small percentage actually responded to the survey ○ 31% of participants - Nurse perceptions of quality care may differ depending on patient

					characteristics and outcomes.
de Almeida, M. H., Orgambídez-Ramos, A. O., & Batista, P. (2017). Workplace empowerment and job satisfaction in portuguese nursing staff: An exploratory study. *Central European Journal of Nursing & Midwifery, 8*(4), 749-755. doi:10.15452/CEJNM.2017.08.0028	Evaluate the role of structural empowerment and its effect on job satisfaction.	A sample of 151 participants were surveyed. Nurses within the same ward in two public hospitals in South Portugal, for at least six months were surveyed.	205 Nurses were targeted. A cross-sectional, descriptive, and correlational study using questionnaires was carried out. Data was collected from January 2016 to March 2016. Participants were asked to complete an anonymous survey. Structural empowerment was measured using a Portuguese version of the Conditions for Work Effectiveness Questionnaire (CWEQ-II). Cronbach's alpha reliability coefficients obtained were 0.93, 0.77, 0.72, and 0.92 for access , opportunities, resources, and support respectively. The CWEQ-II questionnaire included a measurement of global empowerment for validity. Confirmatory factor analysis (CFA) was used	Structural and global empowerment were positively and significantly related to job satisfaction (level of significance 95%). Regression models showed that job satisfaction was significantly linked to access and empowerment. Analysis of the data revealed that all structural empowerment dimensions and global empowerment were positively related to job satisfaction ($p < 0.001$): access to opportunities ($r = 0.55$), access to information ($r = 0.41$), access to support ($r = 0.43$), access to resources ($r = 0.37$), and global empowerment ($r = 0.52$).	Empowered organizational environment leads to positive affective reactions and attitudes toward work, such as job satisfaction, which leads to more effective performance. Access to opportunities and empowerment showed positive and significant predictors of job satisfaction. Nursing professionals who perceive their workplace as empowering demonstrate higher levels of control and autonomy, had greater appreciation for the work they perform, and express higher levels of satisfaction at work, leading to more effective performance. Limitations: - Cross- sectional and correlational design does not allow the

			to examine the construct validity of the CWEQ-II. CFA result showed: $x^2(67) = 149.60$; $p < 0.001$; CFI = 0.95; TLI = 0.93; SRMR = 0.07; RMSEA = 0.09 [90% CI = 0.07–0.11]. The Job Satisfaction Scale was used in order to measure job satisfaction. A CFA of the Job Satisfaction Scale was conducted to check the construct validity. The result revealed an adequate fit: $x^2(19) = 48.62$; $p < 0.001$; CFI = 0.93; TLI = 0.91; SRMR = 0.06; RMSEA = 0.10 [90% CI = 0.06– 0.14]. STATA software and an alpha level of 0.05 for all statistical levels to analyze the common variance method (CMV), correlations, and hierarchical multiple regressions.		establishment of causal relations between the study variables. - Survey design is sensitive to certain traits, such as the bias in questionnaire responses, or the bias in the responses of those who voluntarily collaborated in this research.
Asiri, S. A., Rohrer, W. W., Al-Surimi, K., Da'ar, O. O., & Ahmed, A. (2016). The association	To measure the effects of nursing perception on leadership styles and empowerment and its effect on commitment.	332 valid questionnaires were completed and returned for data analysis which represented 95% response rate from full time nursing staff in	350 questionnaires were randomly distributed to full time nursing staff in the acute care units at KAMC-R . The study uses a cross sectional survey.	Autonomy appears to affect commitment significantly in a positive direction ($p = 0.016$). Nurses' commitment was significantly positively correlated with transactional leadership styles (TAL).	Nurses' commitment is negatively correlated with transformational leadership style and perceived psychological empowerment.

of leadership styles and empowerment with nurses' organizational commitment in an acute health care setting: A cross-sectional study. *BMC Nursing, 15*, 1-10. doi:10.1186/s12912-016-0161-7		the acute care units at King Abdulaziz Medical Center in Saudi Arabia.Kng	3 recognized and validated tools used: - Multifactor Leadership Questionnaire (MLQ) - The Psychological Empowerment Scale - The Three-Component Model of employee commitment The reliability of the three instruments: - Internal consistency was checked for the 44 items of the LS scale, 12 items of PE scale, and 18 items of the OC scale. - Cronbach's alpha measures calculated were 0.94, 0.94, and 0.79 respectively.	Correlation = 0.124, p-value = 0.028). Regression analysis showed that the nurses' perception of leadership styles (TAL and LFL) had positive and significant effects on commitment (p-value = 0.027 and 0.012), Psychological empowerment subtypes and autonomy affect commitment significantly in a positive direction (p = 0.016).	Commitment was positively correlated with the TAL. Leadership styles and empowerment could play a role in promoting organizational commitment. TAL style was found to have a strong positive relationship with empowerment. Nurses feel they are empowered and are more committed to organizational outcomes. TFL style can lead to high level of employee commitment through empowerment strategies. Nursing leaders can enhance working environments with empowerment strategies, increasing participation in decision making. Limitations: - Study was limited to a population of nurses within a single health care institution in the Saudi Arabia and may not be

					generalizable beyond region. -
Belden, C. V., Leafman, J., Nehrenz, G., & Miller, P. (2012). The effect of evidence-based practice on workplace empowerment of rural registered nurses. *Online Journal of Rural Nursing & Health Care, 12*(2), 64-76.	To determine relationship between evidence based practice and workplace empowerment.	42 nurses in the state of Louisiana currently practicing in direct patient care participated in the survey.	A contact list of actively licensed in-state RNs in the state of Louisiana currently practicing in direct patient care was used. (N = 5,980) Based on a systematic sampling process, an interval of every 12thRN employed in direct patient care activities in rural areas were invited to participate in the survey (N = 500). A random, cross-sectional sample was used. A letter with hyperlink to the online survey was sent to each potential participant. Participants had a 20-minute timeframe for completion of the three-part online survey. The online survey was open from January-March 2011. Reminders were sent out prior. Evidenced based practice questionnaire (EBPQ) is a 24-item survey, with a 7-item Likert scale	Evidence-based practice process was moderately correlated to workplace empowerment (r = .421, p = .006). Respondents' skill level in EBP demonstrated a high correlation to workplace empowerment (r = .656, p = .000). Studies showed a positive correlation between overall EBP utilization and workplace empowerment (r = .648, p< .001). The coefficient of determination (*r squared*) for overall EBP utilization and workplace empowerment was .184 (95% CI = .174, .891; p = .005)	Evidence-based practice was correlated with workplace empowerment. Skills in evidence based practice led to high workplace empowerment. Results show a high positive correlation with EBP utilization and workplace empowerment. Empowering work structures enhances nurses' ability to implement high quality healthcare services through evidence based practice. Limitations: - Only 8.4% of the 500 RNs completed the survey, impacting its generalizability to a larger population.

			organized into three separate subscales. In reliability testing, all three individual subscales achieved a Cronbach's alpha of .70 or higher and a Cronbach's alpha of .87 for the entire tool, making this a reliable tool for evaluating nurses' perceptions. Construct validity determined a moderate positive relationship, with correlation coefficients ranging from .3 - .4 ($p < .001$). The Psychological Empowerment Instrument (PEI) was used and is a valid and reliable tool used to evaluate the perceived level of empowerment in employees consisting of 12 self- scored items using a 7-item Likert scale, The PEI exhibited an internal reliability via Cronbach's alpha of .72 with validity averages of .80, demonstrating a reliable and valid tool to assess perceptions of empowerment. All data collected from the completed surveys (N = 42) were entered		

			into a Microsoft® Excel spreadsheet and corresponded to a variable code book to ensure consistency. Then transcribed data were uploaded into the IBM Statistical Package for Social Sciences.		
Singh, M., Hynie, M., Rivera, T., MacIsaac, L., Gladman, A., & Cheng, A. (2015). An evaluation study of the implementation of stroke best practice guidelines using a Knowledge Transfer Team approach. *Canadian Journal of Neuroscience Nursing, 37*(1), 24-36.	Evaluate implementation and dissemination of best practice guidelines via knowledge transfer team (KTT) approach.	Surveys were administered after each education session to evaluate implementation activities. A 12 month series design with comparison of outcomes at six and nine most post implementation.	Use of the Knowledge and Self-Efficacy Survey were completed by the KTT staff at point of care and after implementation of the BPG, although reliability and validity were not stated. A self-efficacy survey was administered to determine an individual's belief in a specific behavior can lead to an improved outcome.	Based on the post survey results, staff felt the KTT approach was an effective method of implementation and dissemination of stroke practice guidelines. In this study, both pre implementation and post implementation self-efficacy had a mean score of 2.9 (SD = 0.77) which demonstrated a moderate level of self-efficacy indicating the more likely a person will place effort into accomplishing the goal.	Knowledge transfer team approach was effective in improving patient care, outcomes, and patient satisfaction levels. Results indicate that the knowledge transfer approach was effective. Limitations: Staff turnover , time and resources to educate staff and lack of financial support for educators affected implementation and post survey of this project.

References

Allen, D. E., & Vitale-Nolen, R. A. (2005). Patient care delivery model improves nurse job satisfaction. *Journal of Continuing Education in Nursing, 36*(6), 277-282.

American Heart Association (2019). Phase III target: Stroke suggested time interval goals. Retreived from https://www.heart.org/-/media/files/professional/quality-improvement/target-stroke/target-stroke-phase-iii/9-17-update/ds14860-time-interval-one-pager_v2.pdf?la=en&hash=5C2DA5A38EE4F69D3C445D803AD04DA3D5B8BED3

Asiri, S. A., Rohrer, W. W., Al-Surimi, K., Da'ar, O. O., & Ahmed, A. (2016). The association of leadership styles and empowerment with nurses' organizational commitment in an acute health care setting: A cross-sectional study. *BioMed Central Nursing, 15*, 1-10. doi:10.1186/s12912-016-0161-7

Belden, C. V., Leafman, J., Nehrenz, G., & Miller, P. (2012). The effect of evidence-based practice on workplace empowerment of rural registered nurses. *Online Journal of Rural Nursing & Health Care, 12*(2), 64-76.

Breau, M., & Rheaume, A. (2014). The relationship between empowerment and work environment on job satisfaction, intent to leave, and quality of care among ICU nurses. *Dynamics, 25*(3), 16-24.

Carabetta, M., Lombardo, K., & Kline, N. E. (2013). Implementing primary care in the perianesthesia setting using a relationship-based care model. *Journal of PeriAnesthesia Nursing, 28*(1), 16-20. doi:10.1016/j.jopan.2012.10.004

Center for Disease Control and Prevention (2020). Stroke facts. Retreived from https://www.cdc.gov/stroke/facts.htm

de Almeida, M. H., Orgambídez-Ramos, A. O., & Batista, P. (2017). Workplace empowerment and job satisfaction in Portuguese nursing staff: An exploratory study. *Central European Journal of Nursing & Midwifery, 8*(4), 749-755. doi:10.15452/CEJNM.2017.08.0028

Demaerschalk, B. M., Kleindorfer, D. O., Adeoye, O. M., Demchuk, A. M., Fugate, J. E., Grotta, J. C., Khalessi A. A., Levy E. I., Palesch, Y. Y., Prabhakaran, S., Saposnik, G., Saver, J.L., & Smith, E. E. (2016). Scientific rationale for the inclusion and exclusion criteria for intravenous alteplase in acute ischemic stroke: A statement for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke (00392499), 47*(2), 581-641. doi:10.1161/STR.0000000000000086

Fonarow, G. C., Liang, L., Smith, E. E., Reeves, M. J., Saver, J. L., Xian, Y., Hernandez, A. F., Peterson, E. D., Schwamm, L. H., & GWTG-Stroke Steering Committee & Investigators (2013). Comparison of performance achievement award recognition with primary stroke center certification for acute ischemic stroke care. *Journal of the American Heart Association, 2*(5), e000451. https://doi.org/10.1161/JAHA.113.000451

The International Electronic Education Network (1999). NIH Stroke Score Scale International. Retrieved fromhttp://www.nihstrokescale.org

Koloroutis, M. (2004). Relationship-based care: A model for transforming practice. Minneapolis, MN: Creative Healthcare Management.

Tinkham, M. R. (2013). Pursuing magnet designation: The role of structural empowerment. *Association of Perioperative Registered Nurses (AORN)Journal, 97*(2), 253-256. doi:10.1016/j.aorn.2012.11.011

Woolley, J., Perkins, R., Laird, P., Palmer, J., Schitter, M.B., Tarter, K., George ,M., Atkinson, G., McKinney, K., & Woolsey, M. (2012). Relationship-based care: Implementing a caring, healing environment. *MEDSURG Nursing, 21*(3), 179-184.